

DOCUMENT RESUME

ED 315 528

CE 053 767

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TITLE Using State Unemployment Insurance Wage-Records to Trace the Subsequent Labor Market Experiences of Vocational Education Program Leavers.
INSTITUTION Human Resource Data Systems, Inc., Columbia, MO.
SPONS AGENCY National Assessment of Vocational Education (ED), Washington, DC.
PUB DATE Jan 89
NOTE 61p.; For related documents, see ED 283 020, ED 290 881, ED 299 412, ED 297 150, CE 053 752-774, and CE 053 783-797.
PUB TYPE Reports - Research/Technical (143)
EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Data Analysis; Databases; Data Collection; Employer Attitudes; Employment Level; *Employment Statistics; *Outcomes of Education; Policy Formation; Postsecondary Education; *Program Evaluation; Public Policy; Research Methodology; Secondary Education; State Programs; Unemployment Insurance; *Vocational Education; *Wages

ABSTRACT

This two-part paper attempts to establish the facts about, and to debate the merits of, using individual earnings information collected quarterly by states from employers as a source for vocational education performance assessment. The first part of the paper explores three topics: (1) who wants to know about the earnings of vocational education program leavers and why do they want to know? (2) what problems are encountered in using other available data sources that are not found in working with wage-records data? and (3) what specific data items does the quarterly wage-record source offer? The second part of the paper then examines process issues that are encountered in using the wage-record data. Brief mention is made of complementary data sources that enhance the usefulness of the wage-record data. The paper concludes that it is only a matter of time before the wage-record data are used and that procedures must be worked out for the most effective and efficient use of the data. A 31-item bibliography is included. (KC)

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ED315528

Using State Unemployment Insurance Wage-Records to Trace the Subsequent Labor Market Experiences of Vocational Education Program Leavers

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*Prepared by Human Resource Data Systems, Inc.
for The National Assessment of Vocational Education,
U.S. Department of Education*

January 1989

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0-25-376-7

The accuracy of information, interpretations and conclusions are the author's sole responsibility and no endorsement by the National Assessment of Vocational Education staff is implied. Contributions by John Bishop, Malcolm Cohen, Robert Crosslin, David Goodwin, James Hanna, Lana Muraskin, Jay Pfeiffer, Stewart Reiman and John Wirt are acknowledged without implicating them in the uses that have been made of their inputs.

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Introduction

Each State now collects individual earnings information directly from most employers on a quarterly basis as a routine matter. Awareness of this fact has prompted many questions about the availability of these data and their usefulness for varied purposes. These questions, in turn, have created a sense of unease in many quarters.

This paper represents an attempt to separate fact from fiction and to establish a common ground for debating the merits of using this data source for vocational education performance assessment purposes (Northeast-Midwest Institute, 1989; David W. Stevens, 1989.)

The first part of the paper explores three topics:

- (1) Who wants to know about the earnings of vocational education program leavers, and why do they want to know?
- (2) What problems are encountered in using other available data sources that are not found in working with wage-records data?
- (3) What specific data items does the quarterly wage-record source offer?

The second part of the paper then examines process issues that are encountered in using the wage-record data. Brief mention is made of complementary data sources that enhance the usefulness of the wage-record data.

Part I

Who Might Use Wage-Records Data?

Many possible users of individual earnings information for vocational education assessment purposes can be identified, including:

- (1) those who are responsible for decisions regarding continued program funding;
- (2) those who are involved in new program approval decisions;
- (3) those who offer student counseling services;
- (4) those who must evaluate instructional staff members; and,
- (5) those who are charged with administrative assessment responsibilities.

A common denominator among these potential users of wage-records information is that the labor market experience of **previous** enrollees is recommended as a basis for **current** decisions. Three technical issues are raised in this single sentence:

- (1) Which previous enrollees are we talking about — what is the appropriate unit of observation;
- (2) what time interval of labor market experience is considered to be important; and,
- (3) how quickly must the information be retrieved?

The Choice of a Unit of Analysis

The answer that is given to the first of these questions determines what assessment issues can and cannot be addressed (Klitgaard and Hall, 1973.) Information about all who entered a vocational education activity includes individuals who stayed for different lengths of time, only some of whom actually completed the prescribed course of study. Even among those who completed the course of study, different competency levels will have been attained. And, among those with a uniform competency level at the time of exit from the vocational education activity, different increments of value-added can actually be attributed to the vocational education activity itself—students enter the course of study with different initial competencies.

For some oversight purposes group averages will offer sufficient information—such as for comparisons among postsecondary vocational courses (National Assessment of Vocational Education, 1988.) For other management uses “outliers” will be of greater interest—when an explanation for dismal or exemplary performance is sought. Averages shield from view important information about unusually good or bad cases. These unusual cases may, in turn, offer useful information to administrators who want to promote positive outliers and avoid negative extremes.

Analysis of transcript data demonstrates the importance of choosing a useful definition of vocational education; one that offers a high probability of public or administrative interest in reported outcomes. “Vocational education” outcomes are not actionable—no one has management responsibility for this broad generic activity. Postsecondary vocational education activities that receive Federal funds have identifiable constituencies. A technology curriculum within a given Area Vocational Technical School impacts upon specific individuals. The unit of analysis that is chosen must have an identifiable person or group who can act upon the new information that will be available.

Employment and earnings information must be tied to carefully chosen units of analysis for at least two reasons:

- (1) confidentiality restrictions on the use of the data; and,
- (2) reliability for potential uses.

In the case of State wage-records data the selection of units of analysis must be accomplished **before** the data are requested. One violation of established disclosure rules will bring the entire house-of-cards crashing down. Ways to assure compliance with these privacy requirements are known; and they are discussed in a later section of this paper. Similarly, any revelation of acceptance of an inappropriate reliability standard will jeopardize the entire accountability effort.

The message that emerges from this brief treatment of the "why" question—who wants wage-records information about previous enrollees in vocational education activities for what purposes—is that different parties want the information for varied purposes. This diversity of interests must be recognized in designing a practical approach for making the data available. Simultaneous satisfaction of both routine administrative and cost-effectiveness constraints requires careful prior planning. Otherwise, Arizona's ill-fated approach (MPR Associates, 1988) will be repeated.

Given a desire for wage-records data, what time period should be covered? This question is addressed in the next section.

The Time Interval to Be Covered

The diversity of potential uses of the data assures that all applications will not require the same time coverage. A willingness to accept point-in-time status as an interesting performance measure is rejected here (Carvell Education Management Planning, Inc., 1984; Bishop, 1987; Stevens, 1987.) It is assumed that longitudinal employment and earnings information of some type is sought to complement or substitute for the point-in-time count of placements.

Among the most important reasons why the length of the observation period is relevant are:

- (1) the importance of site-specific and cyclical conditions diminishes through time;
- (2) complementarities between institutional and on-the-job training can be expected to change with the passage of time;
- (3) job retention, occupational mobility, personal competitiveness, and subsequent enrollment in further education or military service can only be traced as time elapses; and,
- (4) skill obsolescence and renewal patterns can only be monitored through time.

The appropriateness of the economist's production function concept—vocational education and other inputs jointly produce an applied competency output—has been dealt with elsewhere (Stevens, 1983). Whether schools should be held accountable only for value-added in the form of incremental competencies, without reference to the discretionary choice by the enrollee whether an attempt will be made subsequently to apply these skills in the workplace, or whether opportunities to do so are offered, is not addressed here.

An expression of interest in the possible usefulness of State wage-records data is accepted as sufficient evidence that longitudinal employment and earnings information is considered to be important for vocational education assessment purposes. An intention to rely on these data only (i.e., in concert with the exclusion of all other information) is not necessary to proceed with an examination of the data characteristics. A consensus in support of using wage-records data to empower vocational education constituencies must be built from the ground up, by dismissing myths and by establishing confidence in the accuracy, timeliness and relevance of the information,

The time interval question can be split into three parts:

- (1) At what point should the monitoring begin;
- (2) is there a minimum time interval that must be monitored to acquire the desired information; and,
- (3) is there a maximum time interval beyond which the continued collection of information is thought to be unnecessary?

When Should Monitoring Begin?

If the selection for and assignment process within vocational education are of interest, then preenrollment employment and earnings data will be sought. If employment during vocational education enrollment is thought to affect subsequent outcomes, then this period must be monitored too.

Is There a Minimum Time Interval That Must Be Covered?

The answer to this question will vary depending upon the specific evaluation question that is posed. It is difficult to imagine a hypothetical question that would be of oversight interest that could be satisfied by less than one year's post-exit data.

Is There a Maximum Time Interval That Must Be Covered?

Here too, the answer depends upon the range of uses to which the data are to be put. Job retention might reasonably be monitored for a shorter period of time than skill obsolescence. Military service need not be traced very far into adulthood in most cases. Enrollment in postsecondary education is another matter, as adults of all ages return to acquire or renew skills in ever greater numbers.

Are There Constraints on These Choices of Coverage?

Yes, there are constraints. The historical availability of State wage-records, military service information, and higher education data, is uneven. This is why advocacy for a uniform national approach to data retention has begun (Northeast-Midwest Institute, 1989.)

The Timeliness of Data Availability

The issue here is: How soon after a labor market event occurs should this be recorded to inform the vocational education community? The answer using wage-records information is between six and nine months.

There are potential users of wage-records information who have legitimate reasons for being unable to wait six to nine months to receive information about labor market events. A vocational education administrator who has entered into a performance-based contract to provide occupational skill training services may be unwilling to wait six to nine months following an enrollee's exit from the program to receive word of that person's employment status and earnings. This reluctance can be countered by creative "phased" performance-based contract specifications. For example, many for-profit employment agencies base their fees on the number of days that a new hire remains in a job—such as asking for one percent of the total fee per day worked up to the maximum of 100 days.

School boards, a State education department, State legislators, members of Congress, prospective students, and advisory board members, would each be expected to find data of six to nine months vintage quite satisfactory for their purposes.

A related question is: "How often should such information be collected?" This is a moot issue in the case of wage-records data because they are collected on a quarterly basis. If a longer time interval is sufficient for some analytical purposes, these data can be aggregated into multiple-quarter periods (e.g., annual earnings or average job retention periods.)

A more important matter for deciding upon the usefulness of the wage-records data source is whether the quarterly time interval is too long for some oversight purposes. For uses other than fine-tuning of contractor relationships and for the actual administration of performance-based contracting it is difficult to imagine why anyone would want wage-records data sooner than six to nine months.

Why Now?

Interest in the wage-records data source has grown in the past year for several reasons:

(1) States have undertaken their own efforts to utilize these data. Florida continues to refine an approach that was begun in 1984 (Pfeiffer et al., 1987; Pfeiffer, 1988; Pfeiffer, 1989). Arizona initiated an abortive one year effort to use wage-records data in 1985 (Brown and Choy, 1988). Missouri conducted a five-year study of a sample of 1981 graduates using wage-records data (Brandt et al., 1987). Virginia completed a longitudinal study in 1988 (Virginia Employment Commission, 1988). The Center for the Study of Human Resources at the University of Texas at Austin is exploring the possible use of wage-records data to evaluate vocational education programs in Texas. Interest has been expressed by administrators in Maryland and Vermont. Other States are undoubtedly conducting similar studies that have not been brought to my attention.

In all cases two reasons are given for adoption of the wage-records approach:

(i) Follow-up surveys conducted by or on behalf of individual vocational education institutions have been shown to often fall below acceptable standards of statistical reliability; and,

(ii) the wage-records offer a low-cost and reliable alternative to the traditional survey method.

(2) To date the availability of wage-records data has been a matter of individual ad hoc approval by a State Employment Security Agency in response to a research request. Now systematic reviews of procedures are underway (Northeast-Midwest Institute, 1989).

The impetus for reviewing data release practices has come from Congressional mandates that require the use of the data for enforcement purposes in conjunction with Federal housing subsidies and food stamps eligibility determination, and from the research community's heightened awareness of the value of the information for analytical uses.

(3) The Deficit Reduction Act of 1984 (P.L. 98-369, Section 1137) requires all States to collect quarterly wage-records information. This requirement took effect during the fourth quarter of 1988.

While all of the States now comply with this Congressional mandate, three have chosen to use a different approach than the others. Massachusetts and New York collect the information through their revenue departments, and the data are not made available for administration of the State unemployment compensation program. Michigan collects the information through the same auspices as the other States, but they too decline to use the data for unemployment compensation program purposes. Unnecessary administrative costs that are being incurred as a result of what amounts to duplication of effort in these three States can be expected to generate legislative pressure to conform to the other States' practices.

All of the other States currently collect the wage-records information on a quarterly basis through their State Employment Security Agency. Thirty-nine of them have been doing so for decades; many for fifty years.

The primary strength of other available data sources is the breadth of issues that can be covered. Occupational detail, expressions of satisfaction or dissatisfaction with employment responsibilities, opinions about the usefulness of different aspects of the vocational education exposure, and other personal attitudes, can all be recorded through the survey method.

The basic weaknesses of survey data collection are cost and questionable reliability (Bishop, 1989.) Historically, cost consciousness has often doomed the usefulness of the resulting sur-

vey data. The longitudinal integrity of survey data is also more susceptible to legislative whims and changes in administrative priorities than use of an existing administrative data source. In the past, educators have often been asked to conduct the follow-up surveys themselves, which places them in the untenable position of being responsible for maintenance of quality control standards in the collection of information upon which they will then be evaluated.

This is the context in which the use of wage-records must be considered. Two questions are of particular importance:

- (1) Since the wage-records have been available in some States for decades, why hasn't more use been made of them before; and,
- (2) what has changed that suggests that accountability practices for vocational education ought to be revised?

The answer to both questions is that Federal funding for vocational education creates a public right to be informed about the relative payoffs to different types of investments in occupational skill enhancement. This assertion is compelling even though the Federal government contributes only one out of every ten dollars spent on vocational education in the United States (outside the workplace).

The Wage-Records Data Source

Introduction

The prospect of having a reliable administrative data source that is uniformly available in all the States is seemingly a strong argument against continuation of expensive surveys that are of questionable accuracy. Several cautions are cited here, and each is elaborated upon in later sections of the paper.

First, the wage-records data are collected and maintained through State statutory authority. Each State maintains total control over its wage-records. Language found in Section 106.(b)(3)(C) of the Job Training Partnership Act, which relates to performance standards requirements, raises some doubt about Congressional interpretation of this autonomy: "...cost effective methods for obtaining such data as is necessary to carry out this section, which, **notwithstanding any other provision of law**, may include access to earnings records..." (Hanna, 1989).

Second, an either-or choice between a survey or wage-records approach is not required. At least major parts of the employment experience component can be accomplished through use of the wage-records, while other types of information are sought through the survey method. Precision of statistical estimates is presumed to be of less importance for such issues as student and employer satisfaction with each other and the extent to which competencies learned through vocational education auspices are actually applicable on the job.

And third, occupational information is not routinely available in the wage-records data source. For many oversight purposes it is not needed (e.g., earnings levels and profiles over time, job retention rates, continuity of employment within a single industry, interindustry and geographic mobility patterns, multiple job holding, and periods of unemployment or withdrawal from the labor force.) However, occupational affiliation is often appealed to as a traditional proxy for the relevance of the specific occupational skills that have been learned.

These cautions are set forth at the outset to reassure skeptics. The issues are recognized as being of crucial importance in deciding upon the merits of the wage-records data as a potential addition to the administrative and consumer information that is currently available.

The practical importance of State control, confidentiality provisions and absence of occupational specificity can only be understood when each issue is placed in historical perspective. It is therefore necessary to step back in time to ask when, why and how wage-records data collection began in the United States.

Background

The Federal Unemployment Tax Act (FUTA) was passed in 1937. This Act provided for a new Federal tax of 3.0 percent of a designated wage base. A 2.7 percent offset against this Federal tax was granted to States that complied with newly established Federal standards for administering an unemployment compensation program.

This carrot was sufficient to entice all States to comply within a few years, so they would be eligible to use the 2.7 percent offset to pay individual unemployment compensation benefits.

Reporting Requirements

Administration of the newly enacted unemployment compensation programs required two actions by "covered" employers:

- (1) They were now required by law to report total covered earnings on a quarterly basis, so the applicable tax could be computed and assessed; and,
- (2) they were required to be able to document any individual employee's earnings, so a determination of eligibility to receive unemployment compensation benefits could be made when and if it became necessary to do so.

All covered employers in each of the States were required to comply with the first mandate by reporting directly to the designated State Employment Security Agency within a specified time interval. A "covered" employer is one that is liable to pay the unemployment compensation tax under the State's statute.

The States differed in their approach to the second reporting requirement. Many of the States adopted a procedure by which each covered employer was required to report each employee's quarterly earnings with an accompanying social security number as a unique identifier. This reporting requirement, coupled with the tax burden itself, was not a welcome addition to the employers' responsibilities. Government intrusiveness was vigorously resisted.

Some States responded to employer opposition by adopting a wage request procedure, which contrasts with the wage reporting approach that was described above. The wage request procedure deferred collection of individual earnings information until it was needed to process an application for unemployment compensation benefits. When such an application was filed, each base period employer identified by the applicant was contacted to verify the amount of covered earnings that would be used in computing the benefit amount that would be paid.

The "base period" refers to the period of time during which previous earnings would be counted in computing benefit eligibility (usually the first four of the last five completed quarters prior to the claim filing date.) This wage request approach meant that individual earnings would never be recorded unless a claim to receive unemployment compensation benefits was filed. For our purposes, this means that longitudinal earnings records for individuals in these states would not be available for most workers. This is the optional procedure that the Deficit Reduction Act of 1984 discouraged. Today, only Massachusetts, Michigan and New York continue to rely on wage request practices because their State legislatures chose to comply with the requirement in a way that did not release the data to the State Employment Security Agency.

The collection of quarterly earnings information began at a time when government intrusiveness in the conduct of private sector business activities was more limited than it is today. The data were handled in paper copy form and all entries were manual. Today, the business community has become accustomed to government reporting requirements, and much of the reporting occurs in electronic form. Nevertheless, there are still ways in which errors in reporting can and do occur.

Tax Liability (Revenue Quality Control)

Five types of employer are defined for tax liability determination purposes:

- (1) for-profit private sector businesses;
- (2) nonprofit organizations;
- (3) government entities;
- (4) household workers; and,
- (5) agricultural employers.

There are four ways in which a for-profit business becomes liable:

- (1) payment of a specified amount of total payroll during a designated time period;
- (2) having employed someone for pay during a specified number of weeks over a designated time period;
- (3) by acquiring and conducting without interruption the business of another party; and,
- (4) by being liable under the Federal Unemployment Tax Act and employing a worker in the State.

Currently, in Missouri for example, a total payroll of \$1,500 in any calendar quarter during the current or preceding calendar

year is the threshold for (1) above (Missouri Division of Employment Security, 1984.) Employment of a worker "for some portion of a day in each of 20 different weeks in either the current or preceding calendar year" is the threshold for having employed someone for pay during the designated interval.

A government entity is liable without minimum payroll and weeks worked conditions. A nonprofit organization is liable if it employs four or more workers for some portion of a day in each of 20 different weeks in either the current or preceding year. Agricultural employers are liable if they employ 10 or more workers in 20 different weeks during a year, or if they pay \$20,000 in cash wages in a quarter; both conditions applying to cumulative employment in all States. Employers of household workers become liable when they pay \$1,000 in cash wages during a quarter during either the current or preceding year.

Once liability is incurred, an employer remains liable until termination of liability occurs. Termination of liability is based on the absence of the previously stated liability criteria during the preceding year. Requests for termination are made at the beginning of a year.

The specified payroll and employment thresholds are not uniform across the States, but the criteria stated here for Missouri typify the other States' requirements. (Comparison of State Unemployment Insurance Laws, 1988.)

Since the origin of the wage-records data is compliance with tax liability, any action to evade tax liability will introduce error into the wage-records data. Electronic cross-matching practices in the States continue to reduce the incidence of tax evasion. The Unemployment Insurance Service in the Employment and Training Administration of the U.S. Department of Labor has recently initiated a Revenue Quality Control program, and the Office of Strategic Planning and Policy Development in the Employment and Training Administration has contracted with Abt Associates, Inc. to conduct research on this topic. A Benefit Quality Control program has been in place for several years, and an evaluation of this program was recently completed (WESTAT, 1989.)

Covered Employment

A generic definition of covered employment is any services that have been performed for remuneration under contract. Part-time, temporary and casual employment is covered. So are corporate officers and stockholders who perform paid services, and agents and commissioned employees.

Excluded Employment

The services of direct sellers of consumer products who are not affiliated with a fixed retail establishment (i.e., independent contractors); licensed real estate sales agents who receive a specified threshold of their compensation from direct sales; family members working for each other under specified circumstances; various types of employment for religious organizations; employment in specific sheltered circumstances; and services performed by an enrolled student for a nonprofit school, typify what amounts to a list of special exclusions from tax liability. Railway employees are covered under separate Federal legislation. Military service is not covered. Self-employed persons are not required to elect tax liability and coverage. Any organization or individual can voluntarily elect to be liable.

A summary statement about the combined employer and employee coverage criteria is that approximately ninety-seven percent of civilian employment is covered.

Reportable Compensation

Reportable compensation includes both cash payments and the cash value of other considerations, such as food and shelter, which are paid for personal services. Bonuses, commissions, vacation and holiday pay, and termination pay are reportable. Tips that must be reported under the Federal Unemployment Tax Act are considered to be reportable. Retirement, sickness and disability (other than under Workers' Compensation Law) payments are reportable. Payments into an annuity fund that are exempt under Federal tax codes are not reportable.

Total reportable compensation is reported, even though there is a ceiling level beyond which tax liability is not incurred. It is a myth that only taxable wages are reported.

A Brief Synopsis of the Wage-Records Data Source

The Federal Unemployment Tax Act is now more than fifty years old. During the ensuing half century many changes have occurred in the State unemployment compensation systems. Coverage has been extended. Reporting procedures have been automated in many cases. Cross-matching procedures have been introduced to identify new business entities. Interstate cooperation has been established in response to the increasing incidence of interstate mobility. Wage-records reporting practices have come a long way. Having said this, a host of technical and procedural hurdles remain ahead before routine use of these data can be expected. The next section explores the major technical issues, which are: accuracy, timeliness and availability.

Technical Issues

Accuracy

The following accuracy concerns warrant attention here:

- (1) employer reporting of a covered employee's presence;
- (2) employer reporting of the employee's money wages received; and,
- (3) employer reporting of the employee's nonwage compensation received.

Employee Presence

Each employer who is required to report does so using either a paper or electronic version of a **Contribution and Wage Report**. For our purposes the crucial parts of this reporting form are:

- (1) the employer account number; and,
- (2) the employee's social security number.

The employer identification number contains fourteen digits. The first six digits constitute a unique employer account code. The seventh digit is changed when business ownership is transferred and the first six digit account code is conveyed to a successor. The next three digits indicate the Federal Information Processing System (FIPS) code that identifies the location of the reporting unit. The final four digits are the Standard Industrial Classification (SIC) code that has been given to this reporting unit.

Liable businesses that have more than one establishment in a State may, but not must, request a separate employer account

code for each establishment. When they do not do so the FIPS code is an inaccurate identifier of the worksite location. Multi-establishment reporting practices currently affect different numbers of covered workers in each State, because of the unique size and ownership characteristics of businesses located in any State.

The multi-establishment reporting practice is likely to change as States cooperate with the Bureau of Labor Statistics to create its Business Establishment List. Earlier this year the Bureau of Labor Statistics was designated by the Office of Management and Budget as the single Federal agency that is responsible for an accurate accounting for nonagricultural business entities. The Bureau is currently working with each of the States to create a routine procedure for them to report accurate establishment-based data (Plewes, 1988). One way for a State to comply is to require establishment-based reporting at the outset. Another way to comply, which has been used by many States in the past, is to disaggregate total reporting unit employment into establishment shares without actually identifying the individuals who are located at the respective locations.

The Standard Industrial Classification code is assigned to the reporting unit. This code is assigned at the time the business first becomes liable and it is subsequently reviewed on a three-year cycle. The accuracy of this code depends upon the initial description of business activities that is given to the State Employment Security Agency; the interpretation that is given to this description by the Agency employee who assigns the code; and the repetition of these two activities during each three-year review of the continuing appropriateness of the designation.

Since a single Standard Industrial Classification code is assigned to a reporting unit, it must represent all of the covered employees in the unit. The bakery industry has been cited as an example of the interpretive problem that might arise (Cohen, 1989): Employees involved in the baking process are in the food industry. Those who distribute the bread to retail sales locations are engaged in wholesale trade. And those who handle the baked goods in the stores are employed in retail trade.

The unique six digit employer account code is State specific. The seventh digit permits tracing of ownership between succes-

sors and predecessors. Therefore, an individual can be linked to a specific employer unit even when ownership changes. However, note has been taken of the fact that interstate movement within a single employer's jurisdiction cannot be traced using this State designation (Hanna, 1989); each State assigns its own code to the business' activities within its boundaries. Use of an employing unit's Federal Identification Number, which is uniform across all States, would resolve this potential problem.

There are other ways in which the employer unit may be something other than the actual location where the employee works. A Federal Common Paymaster Plan was established to ease the reporting burden in unusual circumstances such as longshore assignments, some construction work, and the increasingly important temporary help service agencies. States also permit employers to request a joint account for common tax rate determination purposes. (Experience rating practices in the states create varied incentives to form pools of covered employees, and in some cases to dissolve business entities to avoid triggering of higher tax rates. These practices increase the difficulty of interpreting the sequence of employer unit codes that might be revealed by tracing an individual through a series of identification numbers.)

The message here is that the surface appearance of a unique employer identification code soon dissolves into a complex list of possibilities. However, diligence in identifying the full range of possibilities in each of the States can be translated into agreed upon ways to interpret given circumstances. Automated diagnostics to accomplish these tasks have been developed by those who have worked with wage-records data in the past (Cohen, 1989; Crosslin, Hanna and Stevens, 1986).

Up to this point, the "presence" issue has been addressed from the standpoint of the place of employment — can we tell where it is, who owns it, and what industry affiliation should be attached to it?

The answer to the where question is: We can usually tell where an individual is employed, and we are improving on our ability to assign the multi-establishment cases in an appropriate manner.

The answer to the ownership question is: We can always identify ownership at a point in time and changes in ownership that occur, but interpretation of these changes in ownership requires information beyond the wage-records reporting system.

And the answer to the industry affiliation question is: A single four-digit Standard Industrial Classification code represents each covered employee in an employer unit, so the diversity of productive activities found within this designation determines the appropriateness of the single industrial affiliation code.

Another side of the "presence" issue is the accurate identification of a specific covered employee. The nine-digit social security number is the unique identifier that is assigned to each covered worker. Errors in recording this number bar the detection of the individual's presence. All is not lost, however. Algorithms have been developed to detect transposed digits in sequential quarterly wage-reports (Cohen, 1989).

Since the social security number is the identifier that is used for Federal tax reporting purposes, some individuals attempt to evade the requirement that they reveal their own unique code. Cases have been encountered in Florida's use of wage-records for followup evaluation purposes in which students used their parents or friends numbers, or made up fictitious numbers, for school records purposes (Pfeiffer, 1987). All dependent children who are reported for Federal tax purposes are now required to have social security numbers. This should increase the accuracy of reporting in the future, although the incentives for tax avoidance will still be present.

There is reason to be optimistic about our future ability to link a given covered employee with all places of employment.

Money Wages Paid

Excepting "off the books" compensation, money wages are reported with steadily improving accuracy as electronic reporting practices eliminate potential sources of human error and increase the probability of cross-matching for auditing purposes.

Since wages constitute the basis for both tax liability, and for a monetary determination of unemployment compensation benefit qualification, both the employer and the employee have a mutual interest in accuracy. Intentional underreporting of wages paid constitutes fraud, which is subject to appropriate penalties. Unintentional misreporting is subject to penalty payments. Errors are most likely to be detected when a claim to receive unemployment compensation benefits is filed, and base period earnings are retrieved to determine monetary qualification.

Intentional misreporting obviously distorts covered earnings in a downward direction, since overreporting could create a higher tax liability. Unintentional misreporting should not reveal any pattern.

The importance of erroneous reporting of money wages paid depends upon the unit of analysis that is chosen. If the incidence of "off the books" payment is unusually high in a particular occupation or industry, then the wage-records source of information will be weakened accordingly. This distortion is most likely to occur with respect to nonwage reportable compensation.

Nonwage Reportable Compensation

Federal tax law now requires the reporting of tips, commissions, bonuses, and a reasonable valuation of in-kind payments. Anecdotal evidence suggests that compliance with this requirement is uneven. To the extent that such payments are an important part of total compensation for particular occupations this diminishes the accuracy of the wage-reports data source.

Timeliness of Reporting

Liable employer units are required to report covered wage payments for a given quarter within one month of the end of that quarter. Extensions of this time limit can be requested. Both interest and penalty fees can be assessed for late payments of taxes due.

State Employment Security Agencies mail contribution and wage report forms to liable employers near the end of each quarter. The accuracy of this mailing depends upon cooperative agreements that have been established with other state agencies that become aware of new business enterprises. The detection of failures to report depends upon the enforcement resources that are devoted to this task by the State Employment Security Agencies.

There is a size-bias in the timeliness of reporting. The largest employer units report electronically as a routine matter. Intermediate size units maintain personnel offices that are prepared to comply with the quarterly requirement, or they retain an accounting agent to perform payroll tasks. Small businesses are less likely to have access to these specialized staff resources, so late reporting involving a higher error rate is more likely to occur.

Timely reporting of tax liability and individual reportable compensation is a routine part of doing business for most liable employers. There is certainly a lower incidence of nonreporting and erroneous reporting through this source than there is through self-reporting survey approaches to securing the same information.

Availability of the Wage-Records Data

Assume that the reportable compensation information has been submitted in an accurate and timely manner in accordance with the applicable state law. Will this information be made available to external parties; and, if so, when?

Each State statute includes a confidentiality provision that protects the anonymity of both the reporting employer unit and the individual employee. These statutes were enacted in the 1930's in most cases, following the examples of predecessors that had moved quickly. The State Employment Security Agencies had one objective in mind at that time — to conduct a newly constituted unemployment compensation program. Promises of confidentiality were offered to reassure both employers and employees that the information would be used only for unemployment compensation program purposes. Among employer

concerns from the beginning was a fear that unions would use information about layoff patterns and wages in their negotiations with liable employers.

As computer processing capabilities have matured, both employers and employees have expressed serious reservations about cross-matching practices that combine two or more data sources. Recent Congressional actions mandating use of the wage-records data to enforcement purposes in Federal housing and food stamps programs have heightened these concerns. In a recent forum on the feasibility of creating a national wage-records archive this concern overshadowed any of the technical issues that were discussed (Northeast-Midwest Institute, 1989.)

Historically, ad hoc requests for wage-records data have often been satisfied. As aggressive Federal movement into vocational education and other employment and training initiatives occurred in the 1960s and 1970s, growing demands for such arrangements were heard. To my knowledge the late Michael Borus was the first person to use wage-records data for evaluation purposes, in his Yale University Ph.D. dissertation submitted in the mid-1960s. Since that time, I have used wage-records information from Florida, Maryland, Missouri, Nevada, Oregon, Pennsylvania, South Carolina and Washington in various evaluation applications.

For seven years, from 1977 to 1983, fourteen State Employment Security Agencies participated in the Continuous Wage and Benefit History (CWBH) program of the Unemployment Insurance Service, Employment and Training Administration, U.S. Department of Labor (Hanna, 1989).

Through these auspices a sample of covered workers was identified in each of the cooperating States. Thereafter, quarterly updates were performed to create and maintain a continuous longitudinal record of reported employment and earnings for these sample members.

For those who filed claims to receive unemployment compensation benefits, claims information was added to these files. Federal support for maintenance of these longitudinal records

ended in 1983. Since that time the individual cooperating States have followed varied practices.

Robert Crosslin, through the Center for Labor Market Information Systems Research at the University of Maryland-Baltimore County Campus, and in cooperation with the National Commission for Employment Policy, is updating these State longitudinal files. Crosslin and I recently completed an analysis for the Office of Foreign Economic Research in the International Labor Affairs Bureau of the U.S. Department of Labor using wage-records for the sample members from Missouri, Pennsylvania and South Carolina, who had been employed in one of seven manufacturing industries affected by international competition during the 1970s and early 1980s (Crosslin and Stevens, 1988).

Ad hoc availability has been good to date. Despite severe budget cuts the State Employment Security Agency administrators have been extremely cooperative in supporting the research interests of external parties. Having said this, there are several reasons to be concerned about the dependability of this cooperative attitude in the future:

- (1) As awareness of the usefulness of the data grows, the requests build too. Administrators will then be forced to either say yes or no to all comers. At some point they will be forced to say no;
- (2) as the user group grows the likelihood that someone will "mess up" increases. One instance of misuse of the data will threaten the entire fragile agreement; and,
- (3) as personnel in State Employment Security Agencies turnover, standing agreements may fall by the wayside.

Currently, when wage-records information is made available, a six to nine months time lag is experienced. First quarter information, for January through March, must be submitted by employers by April 30th. These data must then be entered into the Agency's own operating system. My experience has been that the data would become available in July, which is six months from the time the relevant quarter began. The speed of response is contingent upon what is requested, too. I request a "dump" of

the desired wage record information, which is the easiest request to satisfy. Requests for selected information items, or those that require file merging within the Agency, impose a greater burden on the Agency and usually take longer or result in a denial of the request.

To date, availability has been a matter of personal working relationships. State Employment Security Agencies are not required to make the wage-records information available. Increasing numbers of requests have heightened concerns.

Coverage

For vocational education assessment purposes coverage is as comprehensive as one could reasonably hope for. There are minor differences among the States in the threshold criteria for tax liability and reporting, but these are of little consequence for virtually all possible assessment applications (Comparison of State Unemployment Insurance Laws, 1988).

Noncoverage of some agricultural workers, employees in some family enterprises, the self-employed, employees of some religious organizations, railway workers, and independent contractors, will be of legitimate concern in unusual cases. This is one important reason why hasty action to mandate sole reliance on wage-records information for follow-up purposes would be a tragic mistake. Instead, careful thought should be given at the outset to creative ways in which the interests of those who cannot be satisfied through the wage-records information can be met.

Two other technical issues warrant treatment here:

- (1) interstate comparability; and,
- (2) longitudinal integrity of the data.

Interstate Comparability of the Data

Each State's unemployment compensation statute defines its eligibility criteria and applicable rules. Each State has its own personnel practices and data processing arrangements. The relative strength of the Agency's constituencies varies among the States, and the respective laws reflect these differences. Nevertheless, the Federal Unemployment Tax Act is the guiding force with which all must comply.

There have been Federal efforts to achieve substantial levels of uniformity among the States. Until 1987 the U.S. Department of Labor had supported an Employment Security Systems Institute (ESSI) in cooperation with the Kansas Employment Security Agency. Now cooperating State Employment Security Agencies voluntarily contribute to the maintenance of this attempt to share expertise.

Actually, achievement of uniformity in reporting practices among the States is an unwise goal to pursue. First, it is unnecessary because differences can be handled by an external analyst. And second, pursuit of national uniformity amounts to the waving of a red flag in front of the States rights bull.

With the exception of the unknown current status of Massachusetts, Michigan and New York, there is no reason why each State Employment Security Agency cannot make its wage-records information available under suitable circumstances.

Longitudinal Integrity of Wage-Records Information

States follow different practices in the purging of the wage-records data they keep active for administration of their unemployment compensation programs. Most maintain active files for only the five quarters that are required to determine base period earnings when covered workers file claims to receive unemployment compensation benefits. They then retain older quarterly wage-record data in varied forms for different periods of time.

For vocational education assessment purposes it should be assumed that the wage-records data would be made available for future quarters only. Some historical information will be available, but it cannot be counted on uniformly across the States.

The Units of Analysis Issue

Earlier it was stated that decisions about potential uses of the information have to be made before data requests are submitted. The reason that was given is that foolproof confidentiality assurances must be offered. This requires that careful prior thought be given to what can and cannot be done with the information.

For example, Cohen cites the possibility that one user would request earnings information about employees in a particular industry without respect to occupation. A totally independent request could then be made for earnings information about specific occupations without respect to industry. These seemingly independent requests that comply with confidentiality standards might then be combined in violation of the standard (Cohen, 1989). Such possibilities have to be anticipated and safeguards built into the public use availability of the data.

Current State employment security statutes usually permit a reporting employer unit to waive its right to confidentiality, so in principle it may be possible to secure individual waivers from employers whose identity is important for analytical purposes. It would still be necessary to assure the State agency that individual employee privacy would be respected.

It is likely that employer cooperation can be gained for follow-up uses of wage-records information by appealing to their selfish interest in supporting cost-effective public services. Rapidly growing State commitments to industry-specific training subsidies, offered to retrain incumbent employees in resident companies, provide a window of opportunity to seek a reciprocal commitment by employers to support gaining of access to administrative information that is already collected for other purposes.

So, what unit of observation really is needed for assessment purposes? The possibilities, from small to large, are:

- (1) an individual enrollee;
- (2) a subgroup of enrollees (e.g., the female members of a class);
- (3) a class-size group of enrollees;
- (4) enrollees in a designated sequence of courses;
- (5) enrollees in a designated combination of course sequences;
- (6) combinations of (2) through (5) across institutions;
- (7) combinations of institutions within a designated geographic area; and,
- (8) combinations of geographic areas.

When most observers talk about vocational education assessment they think in terms of (6), (7) and (8) above. These represent a low risk of inappropriate disclosure.

Precedents for Assessment Uses of Wage-Records Information

There is a current precedent under Job Training Partnership Act auspices for assessment applications of the wage-records data. The National Commission for Employment Policy has awarded contracts to selected States (including Florida, Idaho, Illinois, Indiana, Missouri, Nevada, Oregon, South Carolina, Utah, Virginia and Washington) to test the feasibility of using wage-records data for longitudinal followup purposes. The Center for Governmental Studies at Northern Illinois University is acting as a clearinghouse for this project. None of the States have expressed serious difficulty in meeting the reporting requirements of this project, although timely submission of required data has been a burden in what is seen in some of the States as a one-time research activity with insufficient funding. Substantial demographic and JTPA activity detail is included, but no threat to privacy guarantees will be encountered.

The Division of Job Development and Training, which is the Governor's administrative entity for conducting Job Training Partnership Act activities in Missouri, has contracted with the University of Missouri-Columbia to conduct follow-up assessment studies using wage-records data provided by the Division of Employment Security. The most recent report submitted to the Division of Job Development and Training describes Service Delivery Area specific outcomes of JTPA activities (Division of Job Development and Training, 1989).

Previously, under National Governors' Association and National Occupational Information Coordinating Committee sponsorship, I matched third quarter wage-records for all covered employees in Missouri in 1982 and each subsequent year. Reports were produced indicating "stayer", "leaver", "entry" and "exit" rates by two-digit Standard Industrial Classification code and separately by county. Examples were also given of combinations of industry and geographic detail. I have continued to up-

date this file, and now have third-quarter records for all employed individuals in Missouri for 1982-1987 (Human Resource Data Systems, Inc., 1984).

These few examples indicate what can be done without violating the confidentiality protections established by the States. However, before a larger organized effort is made to use these data, routine safeguards must be assured (Northeast-Midwest Institute, 1989.)

Who Might Oppose Use of Wage-Records Information?

Wage-records information offers a low cost and dependable source of information about total compensation, industrial affiliation, employer attachment and geographic location of employment. This information can be linked with complementary information about military service, higher education enrollment, and participation in transfer payment programs.

Why, in the face of such comprehensive coverage, would anyone oppose the full development of this data source? The answer is: Because specific individuals and groups fear the unknown consequences of this new approach to accountability.

The most obvious party who is threatened is anyone who currently relies on survey-based follow-up methods that are known to produce an inaccurate understanding of program outcomes. The wage-records approach takes control of the followup activity out of the hands of the educators. It is unreasonable to expect these parties at the local and State levels to voluntarily relinquish this control.

Some State Employment Security Agency and Federal Unemployment Insurance Service administrators express concern that a rush to use the wage-records for policy analysis and evaluation purposes endangers the superior administrative use of the data (Northeast-Midwest Institute, 1989). Understandable concern is also expressed about what source of Federal funds would be tapped to support these new activities.

One way to respond to these fears is to introduce the wage-records information as one routinely available data source that is neither mandated nor given priority over other types of accountability. Some Congressional interest has been shown in sponsoring legislation to develop a national capacity to use the wage-records data for policy analysis purposes. If this approach

is taken, then the wage-records data would have to stand on their own merits. Local and State vocational educators, governors and legislators would be informed about the availability of the wage-records information, but they would not be required to use it. The experience with performance standards requirements under the Job Training Partnership Act is informative in this regard (King, 1987; National Commission for Employment Policy, 1988; Office of Technology Assessment, 1989).

Performance Standards Practices

King (1987) cites the following conceptual criticisms of JTPA performance standard practices:

- (1) too numbers focused;
- (2) promotes creaming from eligible pool; and,
- (3) inadequate control of local program operator design options.

The same concerns can be expected to emerge within the vocational education community (Office of Technology Assessment, 1989). The following message should be conveyed: Good managers use reliable information that is inexpensive to obtain to guide decisions about the distribution of available resources in pursuit of their organizational goals.

King notes four technical criticisms as well:

- (1) weak explanatory power of the models that are estimated to establish performance standards;
- (2) economic data limitations;
- (3) participant data limitations; and,
- (4) performance expectations.

The recent National Commission for Employment Policy report on JTPA Performance Standards (1988) states that "[c]onsistent with the limited Federal role in designing the JTPA program, the intention of Federal performance-standards policies is to foster accountability and cost-effectiveness without undue influence on SDA design decisions. The Federal performance-standards policies include the choice of measures, the

numerical level at which the standards are set, and the provision of optional models for adjusting standards."

The performance standards experience to date in both job placement (the U.S. Employment Service-State Employment Security Agencies system) and employment and training (JTPA) activities offers compelling evidence that introduction of a performance measurement process can be expected to introduce many unintended effects. It is essential that sufficient technical assistance and staff training be made available to minimize counter-productive actions that are taken based on misunderstandings about the intent or consequences of the standards.

Anticipated opposition to the use of wage-records data can be defused by demonstrating how it can be used with other complementary data sources to inform management decisions.

Complementary Data Sources

This section relies heavily upon the Florida Placement Information Program. This Program has merged the following data sources:

- (1) vocational student data;
- (2) wage-records data;
- (3) higher education data;
- (4) military service data;
- (5) Federal government civilian employment data;
- (6) U.S. Postal Service data; and,
- (7) selected occupational information.

Higher education data are idiosyncratic within each State. It is unlikely that a single request to one State-level authority will suffice. The use of social security numbers as student identifiers is uneven among higher education institutions, although there are many signals that schools are being urged to provide such information.

Currently, Florida initiates requests to employers for occupational information based on student and wage-record matches. Other states (Colorado, Oregon and Utah) have made similar efforts for different purposes. None of these attempts has achieved the status of routine practice. Employers have insufficient incentive to bear the costs of this out-of-the-ordinary request for information, and some express concern about the intrusiveness of the practice. I do not expect occupational information to become a routine part of State follow-up activities.

Merging of Wage-Records Across State Boundaries

There is no reason, in principle, why cross-state matching cannot be accomplished. Indeed, it has been done in specific ad hoc research applications (Hanna, 1989.)

Data processing capabilities can be expected to improve, while costs continue to fall. This means that the potential to conduct the types of file searches and mergers that have been described in this section will be less of a constraint than the caution and skepticism of various parties about the uses to which the data will be put.

Part II

Process Issues

Institutional Responsibilities

This section describes roles and responsibilities at the Federal, State and local levels. It is not sufficient to offer compelling evidence of hypothetical technical feasibility. If wage-records information is to become available for routine application in the vocational education community, then specific tasks must be accepted by individuals and groups to make it happen.

The Federal role is limited by the State ownership of the wage-records data and by the extent of State and local autonomy in vocational education administration. Discretionary leadership opportunities are available for Federal government action.

Federal Actions

Two simultaneous Federal actions should be taken:

- (1) Reauthorization of the Carl D. Perkins Vocational Education Act should include language that acknowledges the current existence and potential routine availability of wage-record data, which can be useful in managing the Nation's vocational education system; and,
- (2) advantage should be taken of demonstration and research language that is already in the Act to sponsor care-

fully designed demonstrations of the use of the wage-records data.

The U.S. Department of Education has an opportunity to accept leadership responsibility in assuring that best-practice State and local uses of wage-records information for performance measurement purposes are brought to the attention of the entire vocational education community.

It is neither necessary nor advisable to attempt to impose uniform practices through Federal legislation or administrative mandate at this time. Instead, compelling evidence of both technical feasibility and practical application and usefulness should be developed in voluntary demonstration settings. This information can then be used to encourage voluntary adoption of similar procedures in other settings.

At least one demonstration that is undertaken should offer an integrated approach covering vocational education, JTPA, public labor-exchange, and State sponsored industry-specific training programs. The intention here would not be to impose uniform performance standards on each of the participating institutional players. The objective would be to identify the differences and similarities that will be encountered in trying to "rationalize" human resources policies at the Federal and State levels. In such a demonstration great care must be exercised in the initial design phase to head off fears that "apples and oranges" comparisons will be made. Such fears contributed to the demise of Arizona's use of wage-records, and were raised in an evaluation of JTPA programs in Nevada (Hanna, 1987). The respective program administrators must be assured that the external analysts understand the differences among secondary and postsecondary vocational education, industry-specific training, JTPA sponsored short-term training, and State Employment Security Agency labor-exchange responsibilities.

At some point in the near future the Department of Defense and the Office of Personnel Management will be required to establish administrative procedures for responding to requests for information, if widespread use of longitudinal follow-up systems emerges (Pfeiffer, 1989.) The U.S. Department of Labor already has a task force working on anticipated policy issues.

The Office of Strategic Planning and Policy Development in the Employment and Training Administration of the U.S. Department of Labor has sponsored three activities during the past year that serve as models of what could be done through U.S. Department of Education auspices to promote the use of wage-records data for consumer information and program evaluation purposes:

- (1) A labor market information project produced two monographs (Duggan, 1987; Stevens and Duggan, 1988) and a wall chart that describes the current status of labor market information data series;
- (2) three regional forums elicited the opinions of a wide range of labor market information consumers about the weaknesses in currently available data; and,
- (3) a national conference brought together most of the interested constituencies to debate the merits of creating a national capability to retrieve and analyze wage-records data from all of the States (Northeast-Midwest Institute, 1989).

State Actions

At the State level, accountability concerns will determine whether and how legislative action is taken to encourage or require adoption of wage-records tracking of vocational program leavers. Arizona's experience (Brown and Choy, 1988), and Florida's efforts, offer useful insights about the relative merits of Statewide mandate versus local discretion. It is unlikely that wage-records will suffice as the only source of useful post-program information. A threat of Federal mandate in the absence of adequate State responses will move some States to act.

The cooperation of secondary, community college and university systems will be necessary to assemble a truly comprehensive picture of vocational education outcomes. The unique organizational relationships and personalities across the States will determine how extensive adoption practices will become.

Gubernatorial leadership and legislative cooperation will be key determinants of success in this regard.

The fiscal circumstances of the 1990s will favor public accountability, which should offer elected officials some leverage when dealing with skeptical and fearful administrators within the vocational education system. There are good reasons for some of this skepticism based on past abuses of the unit-of-analysis issue described earlier (Brown and Choy, 1988).

The States must accept primary responsibility for control of institutional and transcript information that will be matched with wage-records information for evaluation purposes. Quality control considerations require that this responsibility be accepted at the State level. Substantial capacity building will be required to enable many States to perform the required tasks. Professional associations and the National Governors' Association should be used as conduits for much of the interstate sharing of information and technical assistance that will be needed.

Local Actions

At the local level, which is where the data are generated, lies the ultimate responsibility to refine the educational experience in light of accurate and relevant information about previous students' subsequent labor market, higher education and military service experiences. Here, both administrators and school board members, as well as instructional staff persons and technical advisory groups, must become informed about these experiences.

This will require consciousness raising activities similar to those routinely used in the labor market information user world by State Occupational Information Coordinating Committees and State Employment Security Agencies.

Beyond consciousness raising, local school administrators will be asked to provide two essential information items:

- (1) individual enrollee social security numbers; and,
- (2) transcript information.

Currently, not all schools record social security numbers on permanent student records, and not all students have social security numbers. It is unlikely that local school officials can be asked to accept quality control responsibilities to assure accurate recording of social security number information.

Routine editing software can be provided to State officials who will receive the student information from local schools. This will enable the State to detect such simple errors as erroneous digits — there are certain numbers that are never used in parts of the nine-digit field, and numbers that are inconsistent with the age of the student.

An "all or nothing" approach should be discouraged at the outset. Local school districts, and individual institutions within each district, have different administrative capabilities to respond to external mandates for information. It is essential that these local professionals be convinced that the information will actually be used and that they will receive the results.

Cost Estimates

Detailed information has been collected from selected State Employment Security Agencies by James Hanna, Chief of Research for the Nevada Employment Security Department (Hanna, 1989). Based on this information Hanna estimates that the per wage-record cost of obtaining quarterly information would be \$.003 (i.e., three-tenths of one cent per update). This would include matching within the State Employment Security Agency to provide the employer identifiers described earlier, as well as the individual earnings information.

This estimate is subject to many qualifiers, since each of the responding States used a different set of criteria in producing an estimate, based on their own unique cost accounting practices (e.g., how computer time is charged).

Assuming a national universe of 100 million wage records, each quarterly update would cost approximately \$300,000, or \$1,200,000 annually. This assumes that four separate updates would be conducted.

Obviously, the number of vocational education program leavers annually is a small fraction of the 100 million figure that was used above, so vocational education's share of any collaborative updating (e.g., on behalf of vocational education, JTPA, and State funded industry-specific training programs) would be appropriately charged.

This cost estimate is to bring the wage-records data together in one place; or, to make it available through a distributed network access capability. Analytical charges would be added to this figure. A substantial part of the analytical costs would be a one-time investment to produce appropriate software to generate the types of tabulations and graphics that are desired for evaluation and consumer information purposes. The Federal government is the proper bearer of the costs to create a set of "core-products", which could then be complemented through individual State investments in bells and whistles.

No reference has been made in the previous text to the costs that would be incurred by local school districts and by the States to create a capacity for matching of school records with wage-records information. These costs will vary tremendously, depending upon the extent of automation and current reporting that is required.

An important task in the scope-of-work for early demonstration is to generate credible cost estimates for each of the institutional players. There is no reason why both the process and technical matters cannot be explored in a demonstration setting over a one- to two-year period, starting in FY 1990. Several States are anxious to cooperate in such a demonstration.

Legal Considerations

Interpretation of the Buckley Amendment regarding the release of student records, and interpretation of each State's employment security confidentiality provisions, are the key legal issues to be resolved. There are many examples of successful compliance with both. There is no reason why either should become an insurmountable barrier to use of the wage-records approach.

The smaller the proposed, or possible, unit of analysis the greater will be the risk of unacceptable disclosure. It might appear that male-female employment and earnings comparisons among leavers from a single institution poses no risk, but this is not the case if only one member of either sex is found in the chosen population.

A practical solution to many of the disclosure concerns is to adopt at the outset a set of uniform standards similar to those of the Bureau of Labor Statistics. The Bureau follows longstanding rules of minimum cell sizes that will be published. Software can be written to carry out whatever limits are agreed upon.

Another way to assure the States that inappropriate use will not be made of their wage-records data is to draw samples from designated populations (e.g., vocational education program leavers) who will then be tracked nationally on a routine basis, while other ad hoc requests for wage-records data are directed to the individual States. A distributed network capability would permit both objectives to be achieved. Each State would retain physical control of its own wage-records information, but it would agree to create and maintain an archive of the wage-records information, so unanticipated future uses of the data could be accommodated. The major weakness in drawing a sample at one point in time, and then tracking this population longitudinally, is that unforeseen needs for information may not be consistent with the original sampling criteria (e.g., wanting to understand the dispersion of employed Nicaraguan refugees from points of arrival to other places in the United States).

Tension has already arisen among three interest groups:

- (1) The State Employment Security Agencies and the Federal Unemployment Insurance Service, whose common interest is to protect the primary administrative uses of the data;
- (2) the Congress, which has already enacted legislation mandating the use of the data for enforcement purposes in conjunction with Federal housing subsidies and food stamps eligibility determination; and,

(3) the policy analysis community, who see the potential of the data for conducting cost-effective studies of a wide range of policy issues.

It is imperative that the States be included in future deliberations that affect their administrative responsibilities. The Interstate Conference of Employment Security Agencies is an appropriate representative of State interests.

There is no reason why the States' legitimate concerns cannot be accommodated, while still managing to achieve most of the policy analysis purposes that are sought. The contentious debate over enforcement uses of the data is another matter. There is a very real danger that these proposed uses will substantially delay, and perhaps even scuttle, other requests for access to the wage-records.

At a minimum, demonstrations that can be conducted in full compliance with current statutory requirements should not be delayed. The insights they provide will ultimately be the determining factor in decisions about whether to proceed with more expensive data retention and analysis activities.

Conclusions and Recommendations for Action

Endorsement by the Vocational Education Community

Substantial interest is being exhibited in many quarters about the potential uses to which wage-records information can be put. The vocational education community is one important interest group among many. Congress has already shown a willingness to mandate use of these data for purposes unrelated to vocational education's interests. For both offensive and defensive purposes it is timely for vocational educators to take an aggressive posture with respect to acceptance of these data as one source of useful information to guide administrative and consumer decisions in the future.

Demonstration Projects

If demonstration projects are undertaken in FY 1990, then within two years enough technical and process issues will have been resolved to support decisions about the merits of adopting refined accountability procedures on a nationwide basis. This does not necessarily mean that a top-down approach is inevitable. It does mean that only the Federal government is likely to accept the responsibility for funding demonstrations that can answer the questions that need to be addressed before skeptics can be shown compelling evidence of what will and what will not be feasible.

Technical Assistance and Other Capacity Building

Today, the States are arrayed along a continuum of capacity to move quickly to incorporate wage-records accountability procedures into their vocational education systems. Florida is the leader in many respects. Missouri has demonstrated both interest and institutional capacity, but has not made a commitment to sustained support. Many other States have expressed curiosity, and some have taken tentative steps to introduce use of the wage-records information into their accountability procedures.

Realistically, it is likely to be five years before widespread routine administrative uses of the wage-records data for vocational education follow-up purposes are observed. This is both a strength and a weakness. The strength is that there is adequate time to work out glitches in alternative approaches and to invest in capacity building in the States to assure appropriate use of the data when they do become available. The weakness is that inertia is lost when the prospect of such a long delay in adoption is anticipated.

Support of Immediate Discretionary Actions by the States

There is no reason why discretionary State uses of the data should not be encouraged immediately. A small Federal investment in capacity building now should offer a handsome payoff during the 1990s. Appropriation of \$3-5 million for demonstration and technical assistance purposes during FY 1991 should follow a more modest commitment of perhaps \$750,000 during FY 1990 to take advantage of State expressions of interest in beginning immediately to build the bridges among Federal and State human resources programs that will be necessary to design a cost-effective integrated accountability system.

Again, it is not anticipated that a single Federal system will serve all States equally well. Instead, it is expected that a Federally funded core design would be made available to the States for discretionary adoption and refinement.

A Consumer Information Focus at the Outset

It is essential that the wage-records approach begin with a heavy consumer information focus (i.e., well designed formats with appropriate graphics) that is not viewed as a basis for immediate performance-based contracting applications. This will permit the various interest groups to reveal their enthusiasm and concerns, which will in turn permit the system designers to make appropriate modifications that might be needed. The unit of analysis choices that are made at the outset will set the tone for the entire undertaking. Initial selection of more encompassing classifications will be seen as less of a threat by incumbent staff members.

Public- and Private-Sector Coverage

In most States initial information will be limited to those who have left public-sector institutions, because there will be no routine way to secure social security numbers for those who enroll in proprietary programs. An early step in resolving technical issues must be to create an accurate inventory of State regulatory practices with respect to for-profit providers of occupational skills training.

A Work Group to Identify Complementary Data Items

A second early step to be taken at the Federal level will be to identify specific data items that might be matched with the wage-records information. It is not enough to simply recommend generic classifications of data, such as "transcript information." The objective must be to assure quality control over a minimum core of items that will be sufficient to offer useful administrative and consumer information (i.e., items that will help to support the publication of "actionable" information).

A U.S. Department of Education Task Force

An immediate step that can be taken at very little expense is to form a U.S. Department of Education task force, similar to that recently formed by the U.S. Department of Labor, to address specific wage-records topics that are of urgent interest to the education community as a whole — not just the vocational education community. Such a working group could accomplish two important next steps:

- (1) prepare a list of education program applications that could be made using wage-records data, and establish priorities for these applications (e.g., student loan program evaluations, and employment mobility patterns of employees in "shortage" occupations); and,
- (2) mock-up reporting formats that would serve specific users (e.g., members of Congress; governors; State legislators; school board members; State and local administrators; and prospective students, their parents and school counselors.) There is a sufficient pool of experienced users to date to assist in this activity.

Both of these activities should be seen as supportive of the preparation of a promotional package. The use of wage-records is appealing to many parties, in principle, but there is a well-deserved attitude of caution based on the false-starts that have been undertaken in the past to collect data for evaluation and consumer information purposes. When these individuals can be shown actual products that will result from their endorsement they are more likely to be enthusiastic supporters.

Yesterday, Today and Tomorrow

When this paper was commissioned there was a sense of anticipation by National Assessment of Vocational Education staff members that the wage-records data source might offer some promise of responding to expressions of frustration by various external overseers about their inability to learn much about vocational education outcomes.

Since then, two national forums have been held to explore performance measurement issues (Northeast-Midwest Institute, 1989; Office of Technology Assessment, 1989). This paper reflects the proceedings at both of these conferences.

Sufficient interest has been shown by members of Congress that some legislative action might occur during the current session. Those who a year ago said "no way" now acknowledge that the availability of wage-records information is only a matter of when, through what auspices, for what purposes.

This paper offers the vocational education community a primer on how to become involved in what promises to be a rapidly moving process.

Bibliography

Bishop, John (1989), "Policy Evaluation With Archived Wage Record Data: Limitations of Existing Data Sets," in: Northeast-Midwest Institute, **The Feasibility of a National Wage Record Database**, Washington, D.C., pp. 13-24.

____ (1986), "Academic Education and Occupational Training," in: National Assessment of Vocational Education, **Design Papers for the National Assessment of Vocational Education**, Washington, D.C., pp. V-2 through V-55.

Brandt, William E., and John L. Ferguson (1987), **The Longitudinal Follow-Up of 1981 High School Graduates: Final Report**, Columbia, MO: Missouri Testing and Evaluation Service, University of Missouri-Columbia.

Brown, Cynthia L., and Susan P. Choy (1988), "Information Disclosure in Postsecondary Vocational Education: Possibilities and Practices," Berkeley, CA: MPR Associates.

Cave, Claire, et al. (1984), **Placement Rate Concept: A Feasibility Study for Utilizing the Placement Rate Concept in California Vocational Education to Determine Impacts on Students, Program Outcomes, Program Planning Program Evaluation, and Program Improvement**, Los Altos, CA: Carvell Education Management Planning, Inc.

Cohen, Malcolm (1989), "Developing a Wage Record Data Archive: Some Implementation Issues," in Northeast-Midwest Institute, **The Feasibility of a National Wage Record Database**, Washington, D.C., pp. 35-46.

Crosslin, Robert L., James S. Hanna and David W. Stevens (1986), "The Permanence of Dislocation: 1979-83 Evidence," **Research Report Number 86-21**, Washington, D.C.: National Commission for Employment Policy.

Crosslin, Robert L., and David W. Stevens (1988), "Manufacturing Sector Dislocation: A Three-State Longitudinal Analysis," Washington, D.C.: Division of Foreign Economic Research, Office of International Economic Affairs, Bureau of International Labor Affairs, U.S. Department of Labor.

Duggan, Paula (1988), **Labor Market Information: A State Policymaker's Guide**, Washington, D.C.: Northeast-Midwest Institute.

Hanna, James S., and Zina Turney (1988), **The Net Impact of the Nevada JTPA Title II Program**, Carson City, NV: Nevada State Job Training Office.

Hanna, James S. (1989), "The State Perspective on a National Wage Record Database," in: Northeast-Midwest Institute, **The Feasibility of a National Wage Record Database**, Washington, D.C., pp. 25-34.

Human Resource Data Systems, Inc. (1985), **Geographic and Inter-Industry Mobility in Missouri: 1982-1984**, Columbia, MO.

King, Christopher (1989), "Employment and Earnings Dynamics in the 1990s: Policy Issues and Potential Uses of Nationally-Archived UI Wage Records," in: Northeast-Midwest Institute, **The Feasibility of a National Wage Record Database**, Washington, D.C., pp. 1-12.

Klitgaard, Robert E., and George R. Hall (1973), **A Statistical Search for Unusually Effective Schools**, Report No. R-1210-CC/RC, Santa Monica, CA: Rand Corporation.

Missouri Division of Employment Security (1984), **A Guide to Your Rights and Responsibilities Under the Missouri Employment Security Law**, Jefferson City, MO.

Missouri Division of Job Development and Training (1989), **'Appropriateness' of Training Conducted Under JTPA Title II-A**, Jefferson City, MO.

National Assessment of Vocational Education (1988), **Second Interim Report From the National Assessment of Vocational Education**, Washington, D.C.

National Commission for Employment Policy (1988), **JTPA Performance Standards: Effects on Clients, Services, and Costs**, (Final Report, Appendix, and Executive Summary volumes), Washington, D.C.

Northeast-Midwest Institute (1989), **The Feasibility of a National Wage Record Database**, Washington, D.C.

Office of Technology Assessment, U.S. Congress (1989), **Performance Measures for High School Vocational Education**, Washington, D.C.

Pfeiffer, Jay J., et al. (1987), **Occupational Identifier Project Legislative Report**, Tallahassee, FL.

Pfeiffer, Jay J. (1988), "Status of the Florida Placement Information Program as of November 1, 1988," Tallahassee, FL: Florida Department of Education.

Plewes, Thomas J. (1988), "EUS [Employment and Unemployment Statistics] 2000: A Look at Labor Force Data Programs in the Year 2000," Washington, D.C.: Bureau of Labor Statistics, U.S. Department of Labor.

Stevens, David W. (1983), "Outcomes for Vocational Education: Economic Perspectives," in: Floyd L. McKinney and Patricia Fornash (eds.), **Selected Evidence Supporting or Rejecting Eighteen Outcomes for Vocational Education**, Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, pp. 185-215.

- _____ (1986), "Assessing the Impact of the Carl D. Perkins Vocational Education Act: Economic Development Issues," in: **Design Papers for the National Assessment of Vocational Education**, Washington, D.C., pp. III-29 through III-47.
- _____ (1989), "Using Wage-Records Data to Construct Measures of Secondary Vocational Education Performance," Washington, D.C.: Office of Technology Assessment, U.S. Congress.
- _____, and Robert L. Crosslin (1989), "The Feasibility of a National Wage Record Database: Conference Synopsis and an Agenda for Future Actions," in: Northeast-Midwest Institute, **The Feasibility of a National Wage Record Database**, Washington, D.C.
- _____, and Paula Duggan (1988), **Labor Market Information: An Agenda for Congress**, Washington, D.C.: Northeast-Midwest Institute.
- Unemployment Insurance Service (1988), **Comparison of State Unemployment Insurance Laws**, Washington, D.C.: Employment and Training Administration, U.S. Department of Labor.
- Virginia Employment Commission (1988), **Tracking Education Completers**, Richmond, VA: Economic Information Services Division, Virginia Employment Commission.
- Westat, Inc. (1988), **Evaluation of the Unemployment Insurance Quality Control Program**, Rockville, MD.